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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,514	11/17/2006	Shoya Yoda	293946US40PCT	2046
22850	7590	03/11/2010		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER PEZZUTO, HELEN LEE	
			ART UNIT 1796	PAPER NUMBER
			NOTIFICATION DATE 03/11/2010	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/588,514

Applicant(s)

YODA ET AL.

Examiner

Helen L. Pezzuto

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1.4.6-14 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1.4.6-10 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1.4.6-14 and 20-22 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Applicant's amendment to claim 1, the cancellation of claims 2-3, 5, 15-19, and the addition of claims 20-22 filed in the response on 1/29/10 is acknowledged. In light of applicant's amendment and remarks, JP-822 and US-918 are withdrawn as applied references. Currently, claims 1, 4, 6-10, and 20-22 are under consideration in this application.

Election/Restrictions

1. This application contains claims 11-14 drawn to an invention nonelected with traverse in the reply filed on 9/30/09. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.
2. Claims 11-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 9/30/09.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 4, 6-10, and 20-22 are rejected under 35 U.S.C.

103(a) as being unpatentable over DE 19532229 or JP-03-227489 for the reasons of record.

DE-229 discloses a water-soluble polymer dispersion comprising 50-99.99 wt% of at least one water-soluble monomer (a1), 0.01-10 wt% N-methylol group-containing crosslinking monomer (a2), up to 1 wt% of polyethylenically unsaturated crosslinking monomer (a3), up to 30 wt% of a hydrophobic monomer (a4), and up to 20 wt% of an amphiphilic monomer (a5) (see abstract; page 3, lines 5-16). Suitable water-soluble monomer (a1) include N-(2-hydroxyethyl) (meth)acrylamide (page 4, line 52), 3-(N,N,N-trimethylammoniummethyl) (meth)acrylate chloride, 3-(N,N,N-trimethylammonium)propyl (meth)acrylate chloride, and 3-trimethylammoniumpropyl (meth)acrylamide chloride (page 5, lines 14-15, 18), disclosed within the scope of the instant monomer (A) and (B) as expressed in the present claims. The resultant polymer is taught to have a weight average molecular weight of at least 5×10^5 Dalton, meeting the range expressed in claim 8 (page 13, lines 28-29). Accordingly, it would have been

obvious to one having ordinary skill in the art to prepare a water-soluble polymer comprising a mixture of (a1) monomers as taught, motivated by the reasonable expectation of success.

JP-489 discloses a process of preparing paper making additive derived from polymerizing a vinyl monomer in the presence of a water-soluble polymer. Specifically, prior art water-soluble polymer is derived from 0.01 to 20 mol% of a reactive monomer and at least one of anionic, cationic or non-ionic monomer (pages 608-609). Suitable reactive monomer include N-hydroxymethyl (meth)acrylamide, and suitable cationic monomer include quaternary ammonium salts of dialkylaminoethyl (meth)acrylate and dialkylaminopropyl (meth)acrylate, such as methacryloyloxyethyltrimethyl ammonium chloride (page 609, page 611, Example 1), within the scope of the instant monomers (A) and (B). Prior art teaches a solid content of 3-60 wt% based on the water-soluble polymer, and a weight average molecular weight of 100,000 to 2,000,000 (page 610). Thus, it would have been obvious to one having ordinary skill in the art to select a mixture of reactive and cationic monomer as taught, motivated by the reasonable expectation of success. Since hydroxyethyl (meth)acrylamide as expressed in claim 4 are homologues of prior art hydroxymethyl (meth)acrylamide, a skilled artisan would readily envisaged replacing the methylene linkage in JP-489 with

a homologue such as a ethylene linkage in view of their closely related structures and the resulting expectation of similar papermaking additive properties.

Response to Arguments

Applicant's amendment and remarks filed on 1/29/10 have been fully considered. Firstly, applicant urges that DE-229 lists a broad spectrum of monomers which may be used as monomers, but does provides suggestion for selecting the combinations of the vinyl monomers (A) and (B) as recited. The examiner respectfully disagrees as DE-229 clearly teaches selecting at least one water soluble monomers (a1) encompassing the recited monomer species (A) and (B) as expressed in claims 1, 4, and 6 (page 4, line 52; page 5, lines 14-15, 18). Thus, one having ordinary skill in the art would have been motivated to select at least one of the suitable monomers as suggested, motivated by the reasonable of success as taught. Secondly, applicant urges JP-489 describes N-methylo(meth)acrylamide and methacryloyloxyethyl-N,N,N-trimethylammonium chloride but the vinyl monomer (A) and (B) as recited in the amended claim 1 is not believe to read on these compounds. As Stated, JP-489 discloses N-hydroxymethyl (meth)acrylamide as a suitable reactive monomer, which is a homologue of the instant monomer (A) (i.e. hydroxymethyl (meth)acrylamide) as expressed in claim

4. Absent showing of unexpected results, the examiner is of the position that a skilled artisan would readily envisaged replacing the methylene linkage in JP-489 with a homologue such as an ethylene linkage in view of their closely related structures and the resulting expectation of similar papermaking additive properties. Furthermore, prior art methacryloyloxyethyl-N,N,N-trimethylammonium chloride falls within the scope of the instant monomer (B) when b is 1. Accordingly, the examiner's position is maintained.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen L. Pezzuto whose telephone number is (571) 272-1108. The examiner can normally be reached on 8 AM to 4 PM, Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helen L. Pezzuto/
Primary Examiner

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